

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Claims 1-5 and 7-12 have been amended to clarify various patentable aspects of the recited methods and apparatuses, to overcome the 35 U.S.C. §§101 and 112, second paragraph rejections applied thereto, and to correct grammatical mistakes. Support for the amendments is provided, for example, in paragraphs [0018] and [0074] in the specification as filed, corresponding to paragraphs [0029] and [0086] of the published U.S. application. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments). No new matter is added.

Claims 1 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 2005/0181811 A1 to Magnusson et al. (hereinafter, "Magnusson") in view of US 2005/0003782 A1 to Wintzell (hereinafter, "Wintzell") and further in view of US 2005/0083998 A1 to Li et al. (hereinafter, "Li"). Claims 2 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Magnusson in view of Wintzell and Lu, and further in view of US 2003/0073409 A1 to Nobukiyo et al. (hereinafter, "Nobuyiko"). Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Magnusson in view of Wintzell and Lu, and further in view of US 2004/0066754 A1 to Hottinen et al. (hereinafter, "Hottinen"). Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Magnusson in view of Wintzell and Lu, and further in view of US 6,375,178 B1 to Srivastava et al. (hereinafter, "Srivastava"). Claim 5 was rejected under 35 U.S.C. §103(a) as being

unpatentable over Magnusson in view of Wintzell and Lu, and further in view of US 2004/0162073 to Yoneyama et al. (hereinafter, "Yoneyama"). Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Magnusson in view of Wintzell and Lu, and further in view of US 2002/0126645 A1 to Ryu (hereinafter, "Ryu"). Claims 8 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 2002/0136271 A1 to Hiramatsu et al. (hereinafter, "Hiramatsu") in view of US 5,991,285 to Ghosh (hereinafter, "Ghosh") and further in view of Li. Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hiramatsu in view of Ghosh and Li, and in further view of Nobukiyo. Claim 11 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hiramatsu in view of Ghosh and Li, and in further view of US 2005/0037766 to Hans et al. (hereinafter, "Hans"). To the extent that these rejections may be deemed applicable to the amended claims presented herein, the Applicants respectfully traverse based on the points set forth below.

Amended claim 1 is directed towards a base station apparatus and recites the features of:

"1. A base station apparatus comprising:

a reception section that receives first channel quality of a control channel to transmit control information, which includes assignment information of a data channel or modulation and coding scheme (MCS) information, and receives second channel quality of the data channel, wherein the first channel quality indicates an MCS, with which the control channel is to be received at a predetermined error probability, the second channel quality indicates an MCS, with which the data channel is to be received at a predetermined error probability, and the first channel quality is independently measured and different from the second channel quality;

a selection section that selects, from among a plurality of mobile stations, a mobile station to which the data channel is assigned, the selection of the mobile station being in accordance with both the first channel quality of the control channel and the second channel quality of the data channel; and

a transmitting section that performs radio transmission of data to the selected mobile station.” (emphasis added)

The base station apparatus of claim 1 enables interference in an adjacent cell and a reduction in channel capacity to be suppressed, and further enables a drop in throughput to be prevented. (see, e.g., par. [0010] of the published U.S. application). More specifically, when the first channel quality of a control channel for transmitting control information, which includes assignment information of a data channel or MCS information, is poor, if a data channel is assigned to the mobile station that uses the control channel with the poor first channel quality, the control channel transmission power for sending the assignment information of the data channel or the MCS information to the base station at the required reception quality becomes high. As a result, interference affecting adjacent cells increases, and downlink capacity is constrained. (see, e.g., par. [0007]-[0009] of the published U.S. application).

Therefore, according to aspects of the present invention, a mobile station to which a data channel is assigned is selected in accordance with the channel quality of both the first channel quality of a control channel for transmitting control information, which includes assignment information of a data channel or MCS information, and the second channel quality of the data channel. According to these features, aspects of the present invention enable the interference in an adjacent cell and a reduction in channel capacity to be suppressed, and a drop in throughput to be prevented. (see, e.g., par. [0010] of the published U.S. application).

Neither Magnusson nor Wintzell or Li, whether considered individually or in combination, teach or suggest the above-noted feature of: “...a reception section that receives

first channel quality of a control channel to transmit control information, which includes assignment information of a data channel or modulation and coding scheme (MCS) information...” as recited by amended claim 1.

The Office Action (pg. 5) acknowledges that Magnusson provides no disclosure related to the above feature of claim 1, but then alleges that Wintzell cures this deficiency of Magnusson.

Wintzell discloses transmitting a CQI based on both the reception SIR of a pilot signal of a control channel and the CRC detection result of a code symbol of a user data channel. According to Wintzell, the CQI is generated based on both the reception SIR of the pilot signal of a control channel and the CRC detection result of a code symbol of the user data channel, but the CQI transmitted from the receiver to the network only indicates the channel quality of a data channel. More specifically, as paragraph [0032] of Wintzell discloses, “Since a pilot channel is typically at a higher power than a data channel an offset should be applied to the pilot SIR value to account for this power difference. ... Accordingly, an SIR value determined using the pilot signal, and adjusted by an offset, is used to determine a CQI value.” In other words, Wintzell discloses that a CQI is adjusted according to an SIR of a pilot signal, taking into account the difference from the power of the data channel. Therefore, it is clear that the CQI disclosed by Wintzell only indicates the channel quality of the data channel. Furthermore, Wintzell only discloses reporting this single determined CQI from the radio receiver to the radio communication network (see par. [0031]; see also Fig. 2). Thus, Wintzell does not disclose a base station apparatus including “...a reception section that receives first channel quality of a control channel to transmit control information, which

includes assignment information of a data channel or modulation and coding scheme (MCS) information...” as recited by amended claim 1.

Accordingly, allowance of claim 1 and all claims dependent therefrom is warranted for at least these reasons. Claim 12 now recites substantially the same features distinguishing apparatus claim 1 from the applied references, though does so with respect to a method. Accordingly, allowance of claims 1 and 12 and all claims dependent therefrom is warranted for at least these reasons.

With respect to the rejection of claim 8, the Office Action (pg. 14) proposes that paragraphs [0134]-[0142] of Hiramatsu disclose the feature of claim 8 of “...a determination section that determines, in accordance with the measured first channel quality of the control channel, whether or not the channel quality information of the data channel is to be transmitted.”

However, the above portions of Hiramatsu only disclose that “Multiplexing section 1208 generates a multiplexed signal by multiplexing the transmission data, base station selection information, and MCS1.” Although the Office Action (pg. 15, lines 1-2) alleges that this multiplexing operation corresponds to “determines affirmatively,” multiplexing different types of data to be transmitted is clearly not the same as determining whether or not to transmit data based on measured first channel quality of a control channel. Thus, Hiramatsu fails to teach or suggest the feature of “...a determination section that determines, in accordance with the measured first channel quality of the control channel, whether or not the channel quality information of the data channel is to be transmitted,” as recited by amended claim 8.

Accordingly, allowance of claim 8 and all claims dependent therefrom is warranted for at least these reasons.

In view of the above, it is submitted that this application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a personal communication, the examiner is requested to e-mail the undersigned at the address listed below to set up a telephone discussion.

Respectfully submitted,

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